SOMETHING ABOUT VARNISH.

TO the average citizen of a world inhabited by a thousand million people—mostly fools, according to Carlyle—varnish is simply a bright, amber-colored fluid.

To the cabinetmaker, the coach painter or the car builder it is,—well, it is the Devil. It has all the whims of a woman, all the tricks of a young monkey, all the meannesses of a ten-year-old boy. So thoroughly is this known, that among users of varnish a special name has been given to each of these "deviltries," as they are called; specking, sweating, crawling, peeling, blotching, blistering, cracking, etc., etc. Of course, much of the trouble is due to improper preparation of the wood, or to the carelessness or ignorance of the handler, but after all is said and done, it remains true that the manufacture of varnish is one of the most complex and difficult of modern trade processes.

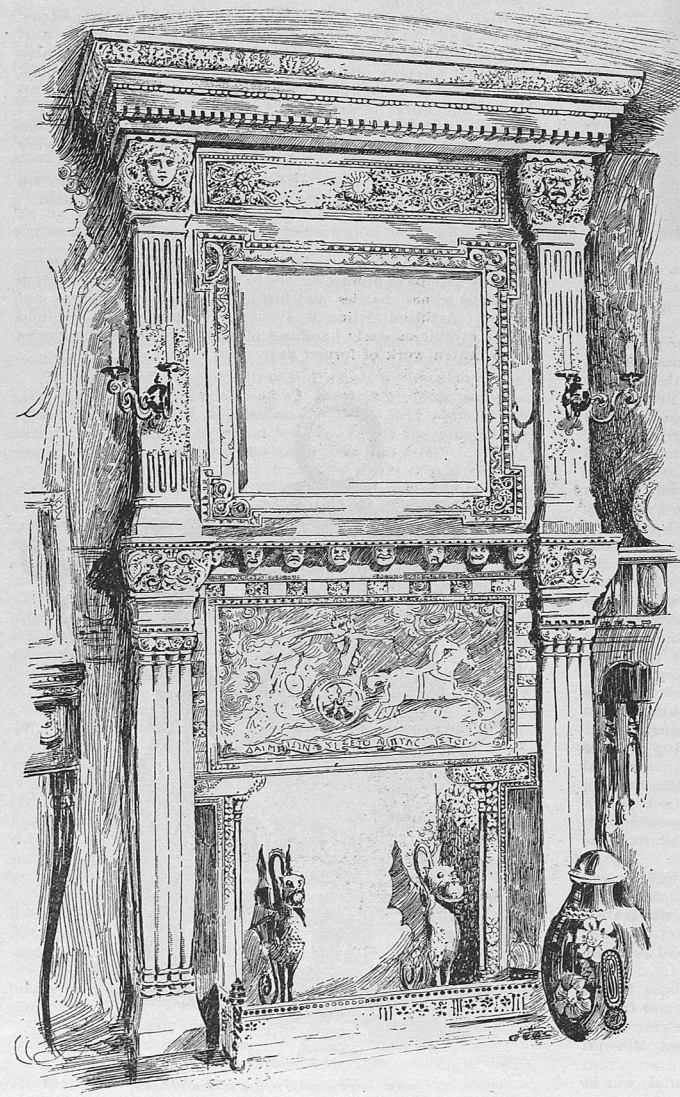
Leaving out the natural lacquers of China and Japan, with which the skillful, patient artisans of those countries produce such marvellous results, the varnish of commerce may be divided into three classes: spirit varnishes, in which the resins are dissolved in alcohol; volatile oil varnishes, in which turpentine is the solvent, and the fixed oil class, where the resins are first melted and then fused with turpentine and linseed oil.

In the first class the solvent is evaporated quickly when the varnish is applied; these are therefore known as the quick-drying varnishes, and are brittle and fragile, though transparent and delicate. They are used on cabinet work, musical instruments, etc. French polish is a spirit varnish.

The resin most commonly used in spirit varnishes is lac, which is the gum yielded by the Banyan, or fig tree of India, when stung by an insect. The insect lays its eggs in the resin, which gives it the granulated appearance, to which it ows the name of seed lac. When the gum comes to market on the branch of the tree it is called stick lac; when strained through cloth and marketed in layers, it is known as shell lac.

The volatile oil varnishes, which are neither as delicate or brilliant as the spirit varnishes, nor as tough and lasting as the fixed oils, are made by dissolving resin in turpentine. When the Southern pine tree of the United States is wounded, it yields a thick natural varnish. From this turpentine is distilled, the residue being our ordinary rosin. This, when re-dissolved in turpentine, is our common varnish. The resin of the Dammar pine of the Spice Islands, and the Gum Mastic of Northern Africa, are also treated in the same way, producing a varnish for maps, etc.

The most important class of varnishes, however, are those which are known as the fixed oil varnishes, which, as we have said, are made by melting fossil resins and then fusing them with turpentine and linseed oil. All these fossil resins are classed under the general name of Copal, and the copal varnishes are those which are used by the manufacturers of furniture, pianos, coaches and cars.



SUGGESTION FOR A FIREPLACE, BY F. S. BRYCE.

Fossil Copal has been found on the East and West Coasts of Africa and in South America, and living Copal trees are to be found to-day in both these countries and in Mexico. Accra, or "North Coast" gum, is found in Guinea. For years a large proportion of the fossil resins of commerce have been found in the northern parts of New Zealand, but the Kauri gum, as it is called, is not a true Copal, though a fossil resin, the Kauri tree being allied to the pine. Pebble gums are also found in the river beds of West Africa, where they have been worn by the action of the water into round smooth pieces, resembling pebbles. Brazilian and Mexican gums are known to commerce as animé, while those from Zanzibar are called animi. Singular as it may seem, the discovery of the manifold uses of India-rubber sensibly decreased the supply of Copal at Zanzibar, the lazy, naked negroes finding it easier to gather rubber than to dig for resins. They use a sort of spear, with which they prod the ground, and having found a couple of handfuls of the long buried gum, bring it to the trader. On the proceeds they live until hunger drives them to another herculean feat.

One of the largest manufacturers in the country takes great pleasure in showing visitors to his Newark office something of the poetry of the business. In his little museum are specimens of fossil gums from every quarter of the globe; and your curiosity is piqued and interest excited as he leads you to a clear piece of amber in which can be seen a bright yellow butterfly. Ages ago, on some bright morning, it alighted on the fragrant gum as it oozed from the tree. Its feet once involved in the sticky substance, it became a prisoner. Slowly the crystal gum exuding covered it. Many years later the tree fell, or the forest, fire-swept, was destroyed, and the mass of gum, buried beneath the accumulating soil, fossilized into amber, but to-day the butterfly of those far distant times is as perfect as when his golden wings fluttered in the sunshine of the African morning. Here also can be seen embedded in amber a veritable mosquito, brought hither in the year 1882 to visit his countless descendants who have colonized New Jersey. The grasshopper, the ant, the bumble bee and the spider are all here to establish the claims of their respective families to long descent.